White Paper
U.S. Arctic Research Commission Recommends Steps to Expanded U.S. Funding for Arctic/Subarctic Oil Spill Research

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Summary

The U.S. Arctic Research Commission recommends steps that the United States government should take to invigorate oil spill research in the United States, with specific emphasis on the increasing need for more effective spill prevention and response in the Arctic region. Risks of oil spills may be growing due to changing climate and sea ice conditions, increasing offshore energy exploration, and projected shipping growth. The promise of a rigorous national research plan on oil spills, pledged by the Oil Pollution Act of 1990 after the Exxon Valdez disaster, has fallen short.

Several actions should be assigned priority status:

- ✓ 1) Government should update national and regional research plans as promised by that law and fund those plans, as authorized, through the $2.7 billion Oil Spill Liability Trust Fund (OSLTF), which is replenished by an eight cents per barrel tax on crude oil produced in or imported to the United States.[1] The Interagency Coordinating Committee on Oil Pollution Research (ICCOPR) is the leader of this federal research effort, as prescribed by law;
- ✓ 2) The "endowment" funding for the National Oceanic and Atmospheric Administration (NOAA)-chaired Arctic/subarctic focused spill research program created in OPA 90, the Prince William Sound Oil Spill Recovery Institute, should also be expanded; and
- ✓ 3) Federal agencies should maintain thorough stakeholder consultation while planning, funding and revising research and development objectives.

Background

The Arctic is a venue with particular need for oil spill prevention and response. Unique risks in the North include protracted darkness, cold, ice cover, and powerful storms, all of which complicate prevention and response efforts for spills in ice-covered waters. Good scientific baseline information is lacking for living resources in the much of the region and the need exists to better understand both basic biological features, as well as the spatial habitat of flora and fauna that might be at risk from spills. Despite limitations such as these, the Arctic is also seen as a growing area of opportunity for both energy exploration and greater accessibility to global shipping. A 2008 USGS assessment[2] finds that 13% of the world's undiscovered oil and 30% of its undiscovered gas is to be found inside the Arctic, and that all five

[1] 26 U.S.C. 4611 (c) (2) (B)

[2] Circum-Arctic Resource Appraisal: Estimates of Undiscovered Oil and Gas North of the Arctic Circle (*2008).* < http://energy.usgs.gov/arctic/>. See specifically "Slide Presentation."

Arctic Ocean coastal states and adjacent Iceland have offshore exploration or production programs underway. There are currently over 600 active leases in Alaskan outer continental shelf (OCS) waters. A 2009 Arctic Marine Shipping Assessment, conducted by the eight-nation Arctic Council, projects greater use of the Arctic Ocean by mariners, first to serve communities and resource development, and ultimately to provide trans-Arctic "shortcut" routes for global shipping.

As the U.S., Russia, Canada, Greenland, Iceland, and Norway all proceed with plans for high-Arctic oil and gas exploration, political and legal calls for improved spill response capability are growing. Edward Itta, Mayor of the North Slope Borough, said, "We oppose offshore [drilling] until somebody proves to us they can clean up an oil spill in the Arctic."[3] Likewise, the Commission has had discussions with industry groups in the U.S., Canada, and Norway. While industry believes the risks of oil spills are low enough to allow offshore exploration with appropriate precautions, there is widespread agreement and support for increased research and development in spill prevention and response.

Current federal efforts in support of Arctic oil spill research are undertaken primarily by the U.S. Coast Guard, the Department of the Interior's Minerals Management Service, NOAA's Coastal Response Research Center, (CRRC), and the Prince William Sound Oil Spill Recovery Institute (PWS OSRI). At least two interagency processes are established by law to coordinate these activities: the Interagency Arctic Research Policy Committee (IARPC), established by the Arctic Research and Policy Act of 1984 to coordinate planning for all U.S. Arctic research programs throughout the government, and the Interagency Coordinating Committee on Oil Pollution Research (ICCOPR), established in the Oil Pollution Act of 1990.[4] IARPC is chaired by the National Science Foundation; ICCOPR is chaired by the U.S. Coast Guard.

The U.S. Arctic Research Commission (USARC), under its authority to establish national policy, priorities, and goals for Arctic research, has long supported an appropriate basic and applied research program to find better methods to prevent and respond to oil spills in the Arctic region. The Commission published *Oil Spill Response in Ice-Covered Waters* in 2004,[5] in which we found that "consistent long-term funding is needed for developing and improving response options for dealing with accidental oil spills in ice-covered waters." Following the 1989 Exxon Valdez oil spill and during the legislative consideration of the *Oil Pollution Act of 1990* (OPA 90), USARC supported the creation of the Oil Spill Recovery Institute.[6] USARC recently helped the U.S. complete the *Arctic Marine Shipping Assessment*,[7] in which the U.S., along with the seven other Arctic nations, agreed on the need for more research.[8] The Commission also worked with the Congress, the State of Alaska, and the U.S. Coast Guard to encourage an oil spill risk assessment in the Aleutian Islands. We co-sponsored a Coastal Response Research Center

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[3] Ipsen, Beth. "Residents voice opposition to Shell's offshore drilling." *Pacific Environment*, 19 April 2007. <http://www.pacificenvironment.org/article.php?id=2340>

[4] Oil Pollution Act of 1990, 101 H.R. 1465, P.L. 101-380. <http://thomas.loc.gov/cgi-bin/bdquery/z?d101:h.r.01465:/>.

[5] Oil Spill Response in Ice-Covered Waters (2004). < http://www.arctic.gov/publications/oil_in_ice.pdf>.

[6] Oil Spill Recovery Institute. <http://www.pws-osri.org>.

[7] *Arctic Marine Shipping Assessment 2009 Report*, Arctic Council, April 2009. http://arcticportal.org/pame/pame-document-library/progress-reports-to-senior-arctic-officials/olgaamsa2009report.pdf.

[8] The AMSA report is the result of a four-year, multinational-led project that was subsequently adopted in the 2009 Tromsø Declaration, a set of guidelines for the Arctic Council during the next two years that was ratified on April 29 by the eight Arctic states, including Deputy Secretary of State James Steinberg, who led the U.S delegation. Among many other findings, the AMSA report states that the "current lack of infrastructure" in the Arctic makes it more difficult to respond to spills because of the Arctic's "vast geographic distances in various seasonal and climactic circumstances" (187).

workshop[9] and a U.S.-Canada workshop,[10] and visited the Joint Industry Program at SINTEF on oil in ice, which explored new spill mitigation strategies.[11] Finally, from a local perspective, the Commission is aware of and supports the call for in-situ spill scenario testing promulgated by Mayor Edward Itta of the North Slope Borough, as well as the additional integration of traditional knowledge into spill prevention and response efforts.

These priorities, and the actions that they support, are timely. Much of the funding that is authorized in OPA 90 has expired since the act was passed. Oil pollution effects research, regional research programs, demonstration projects in New York and New Jersey, Los Angeles and Long Beach, and New Orleans, and a joint program from the Department of Commerce and the Environmental Protection Agency to monitor the environmental effects of oil discharges have all lost funding authorization in the recent past. Additionally, improvements are needed in the ability to clean up oil spilled under ice and only minor improvements have been made in the detection of thin oil slicks trapped under ice over the last two decades[12]. Recovery statistics for mechanical response techniques are similarly disappointing; with large response gaps related to health and human safety concerns of getting response personnel safely to the scene of the spill remaining. Concerns and data gaps exist surrounding the environmental effects of in situ burning, chemical dispersants and herding agents. Additional research is needed in all of these areas. Some efforts are being undertaken to approach priority issues, most recently by the SINTEF organization, in cooperation with various stakeholder groups. We applaud these efforts. This research has garnered rapid results and we look forward to learning more about the group's progress when the final report is released in the near future.

Despite these recent efforts, the Commission concludes that federal oil spill research efforts for Arctic conditions are fragmented, uncoordinated, under-funded, and in dire, immediate need of improvement.

Commission Recommendations

To this end, the Commission proposes the following coordinated actions between the executive branch, the Congress, the State of Alaska and its municipalities, industry, and academia:

1. The Interagency Coordinating Committee on Oil Pollution Research (ICCOPR) created by OPA should begin to meet, regularly, in a transparent fashion and with a regular agenda to develop justification for an appropriate level of national funding for oil spill research. It should involve state environmental agencies, industry and academic institutions, as it did in the beginning and produce a regularly-updated plan. The plan should be prioritized to reduce the greatest risks in the chain of oil exploration, production, transport and use. Notices of meetings, minutes and agendas should be posted online for the public to see. Congress should exercise its oversight and the OSTP should exercise its coordination powers to ensure the research provisions of OPA 90 are followed.

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[9] *Opening the Arctic Seas: Envisioning Disasters and Framing Solutions*. Held March 18-20, 2008, and sponsored by the Coastal Response Research Center at the University of New Hampshire. <http://www.crrc.unh.edu/workshops/arctic_spill_summit/arctic_summit_report_final.pdf>.

[10] *Northern Oil and Gas Research Forum: Current Status and Future Directions in the Beaufort Sea, North Slope and Mackenzie Delta*. Held in Anchorage, Alaska, October 28-30, 2009.

[11] The Joint Industry Program for Oil in Ice, Selskapet for INdustriell og TEknisk Forskning ved norges tekniske hoegskole (The Foundation for Scientific and Industrial Research at the Norwegian Institute of Technology), <http://www.sintef.no/Projectweb/JIP-Oil-In-Ice>.

[12] 2006 MMS Svalbard Experimental Spill to Study Spill Detection and Oil Behavior in Ice

2. A subcommittee of ICCOPR should be created for its Arctic/subarctic work. The committee should coordinate closely with the Commission, the Interagency Arctic Research Policy Committee (IARPC) and two government-funded research programs with ties to NOAA (the Prince William Sound Oil Spill Recovery Institute in Cordova, Alaska and the Coastal Response Research Center at the University of New Hampshire). It should work closely with Canadian efforts, including the Arctic Marine Oil Program (AMOP), and Norwegian efforts. It is appropriate and necessary to involve the State of Alaska and the Boroughs of Alaska's North Slope, Northwest Arctic, Western, Aleutian Coasts and Gulf Coasts where oil development and marine transport is occurring or proposed.

3. Given recent lease sales earning close to $3 billion in revenues to the U.S., other offshore development in Arctic/subarctic ice covered areas that will serve U.S. markets, and the increasing amount of shipping of all types occurring in the Arctic Ocean, USARC recommends a research funding amount of $30 to $50 million per year, nationally, with $8-10 million per year dedicated to cover both the baseline biological research required in the Arctic as well as to aggressively improve research, development, and on-water (in-situ) experimentation of spill response in ice-covered conditions. This budget should come from the Oil Spill Liability Trust Fund (OSLTF)[13] and be spent through the USCG's competitive program, OSRI and CRRC, to meet concerns raised about the need for oil and ice research.

Congress could authorize an appropriate amount of funding from the OSTLF to go to oil spill research two ways: by annual appropriation or by a built-in "endowment" approach now used to fund research and oil tank upgrade/replacement work by OSRI and the Denali Commission.

4. The Commission has considered the need for new legislation in the following areas:

a. Any appropriate authorizations needed for the OSLTF to maintain a competitive research program, involving industry and academic applicants with local stakeholders.

b. Support increasing the "endowment" fund for the OSRI by approximately $12 million for inflation proofing, as is now contained in S. 1194.

c. Support for Senator Mark Begich's initiative, S, 1561, to fund a National Academy of Science study to review research needs in the areas of spill response and prevention and to investigate the utility of Response Gap Analysis research.

d. Expanding the membership of the Interagency Oil Pollution Research Coordinating Committee to include OSRI, CRRC, industry, state, local and academic members, and tying the ICCOPR/s work to that of the White House –chaired National Science and Technology Council.

e. Allowing the Environmental Protection Agency and other appropriate regulators the ability to waive restrictions that have so far prevented on water testing of oil spills in the waters of the United States. Legislation could also encourage "spills of opportunity" to be used to test new response techniques, and direction could be given to the Department of Justice to see that fines and penalties for oil spills are directed to further support research

[13] The Oil Spill Liability Trust Fund was established by section 9509 of the Internal Revenue Code of 1986 (26 U.S.C. 9509).